REVISIONS			
LTR	**DESCRIPTION**	**DATE**	**APPROVED**
H	Corrected several dimensions on figure 1. Changed quality assurance provisions in section 4. Added dash numbers –22 and –23. Editorial changes throughout.	2 MAR 1990	Randy Larson
J	Added dash numbers –24 through –28. Editorial changes throughout.	11 SEP 2001	Thomas Hess
K	Added additional suggested source of supply contact information. Editorial changes throughout.	23 MAR 2014	Thomas Hess
L	Corrected roll pin material and finish requirements and referenced documents. Updated vendor contact information.	23 JUL 2016	Thomas Hess

CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
HAS CHANGED NAMES TO:
DLA LAND AND MARITIME,
COLUMBUS, OHIO 43218–3990

Prepared in accordance with ASME Y14.100

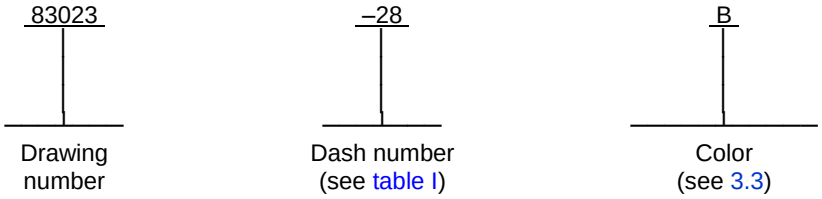
REV	L	L	L	L	L													
PAGE	16	17	18	19	20													
REV STATUS OF PAGES	**REV**		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	PAGE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

PMIC N/A	**PREPARED BY** Dan McGrath	**DESIGN ACTIVITY** **DEFENSE ELECTRONICS SUPPLY CENTER, DAYTON, OH 45444–5000**
Original date of drawing 22 March 1984	**CHECKED BY** Randy Larson	**TITLE** **RETAINER–EJECTOR, ELECTRICAL CARD, PLASTIC**
	APPROVED BY Ivan Jones	
	SIZE **A** / **CAGE CODE** **14933**	**DWG. NO.** **83023**
	REV **L**	PAGE **1** OF **20**

1. SCOPE

1.1 Scope. This drawing describes the requirements for a family of plastic retainer–ejectors intended for use with printed circuit boards and circuit card assemblies in moderate shock and vibration environments.

1.2 Part or Identifying Number (PIN). The complete PIN shall be as follows:



2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

DEPARTMENT OF DEFENSE STANDARDS

MIL–STD–1285 – Marking of Electrical and Electronic Parts.

(Copies of these documents are available online at http://quicksearch.dla.mil.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents are those cited in the solicitation or contract (see 6.2).

AEROSPACE INDUSTRIES ASSOCIATION (AIA)

NASM51923 – Pin, Spring, Tubular, Coiled, Standard Duty.
NAS1407 – Pin, Spring, Coiled.

(Copies of these documents are available online at http://www.aia-aerospace.org.)

ASTM INTERNATIONAL (ASTM)

ASTM D4066 – Standard Classification System for Nylon Injection and Extrusion Materials (PA).

(Copies of these documents are available online at http://www.astm.org.)

SAE INTERNATIONAL (SAE)

AMS 2700 – Passivation of Corrosion Resistant Steels.

(Copies of these documents are available online at http://www.sae.org http://www.astm.org.)

UNDERWRITERS LABORATORIES, INC. (UL)

UL 94 – UL Standard for Safety Test for Flammability of Plastic Materials for Parts in Devices and Appliances.

(Copies of these documents are available online at http://www.ul.com.)

(Non-Government Standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Interface and physical dimensions.

3.1.1 Retainer–ejector. The design and physical dimensions shall be as specified in table I and on figures 1 and 2.

3.1.2 Spring pin. All retainer-ejectors shall be provided with one (except for –15 and –16 which require two) corrosion resistant steel spring pin (roll pin) used for mounting the retainer–ejector to the circuit card assembly. The spring pin shall be of the spiral or coiled type (e.g. NASM51923 or NAS1407). Diameter and length of the spring pin shall be compatible with the applicable retainer-ejector dash number.

3.2 Materials.

3.2.1 Nylon. Nylon materials shall be In accordance with ASTM D4066. The flame retardant classification shall be V2 in accordance with UL 94.

3.2.2 Glass filled nylon. Shall be 30 percent glass filled nylon, type 6/6 or type 6 in accordance with ASTM D4066. The flame retardant classification shall be V2 in accordance with UL 94.

3.2.3 Glass filled polycarbonate. Polycarbonate materials shall be 10 percent glass filled. The flame retardant classification shall be V0 in accordance with UL 94 (Lexan 500 or equivalent).

3.2.4 Corrosion resistant steel (spring pin). Spring pins materials shall be an austenitic corrosion resistant steel (e.g. SAE S30200 or S30400 or AISI 302 or 304) and passivated in accordance with AMS 2700.

3.3 Color. The color of retainer–ejectors shall be specified in the PIN according to the following designations: B = black, W = white (cream or natural nylon), R = red, Y = yellow, G = green, U = blue. Yellow retainer–ejectors will be marked with the sensitive electronic device (SED) symbol. NOTE: SED marked retainer–ejectors may require special ordering.

3.4 Certificate of compliance. A certificate of compliance shall be required from manufacturers requesting to be a suggested source of supply.

3.5 Marking. Marking of the DESC PIN is not required on the retainer–ejectors, however, each unit package shall be marked in accordance with MIL–STD–1285 and include the PIN as specified herein (see 1.2), the manufacturer's name or Commercial and Government Entity (CAGE) code, and date lot codes.

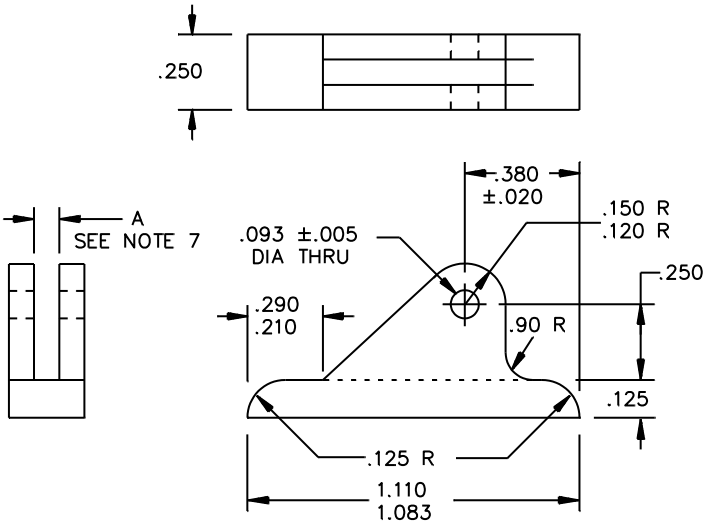
3.6 Recycled, recovered, environmentally preferable, or biobased materials. Recycled, recovered, environmentally preferable, or biobased materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.7 Workmanship. Retainer–ejectors shall be free of flash, pits, voids, cracks, and excessive mold marks. A visible parting line is acceptable.

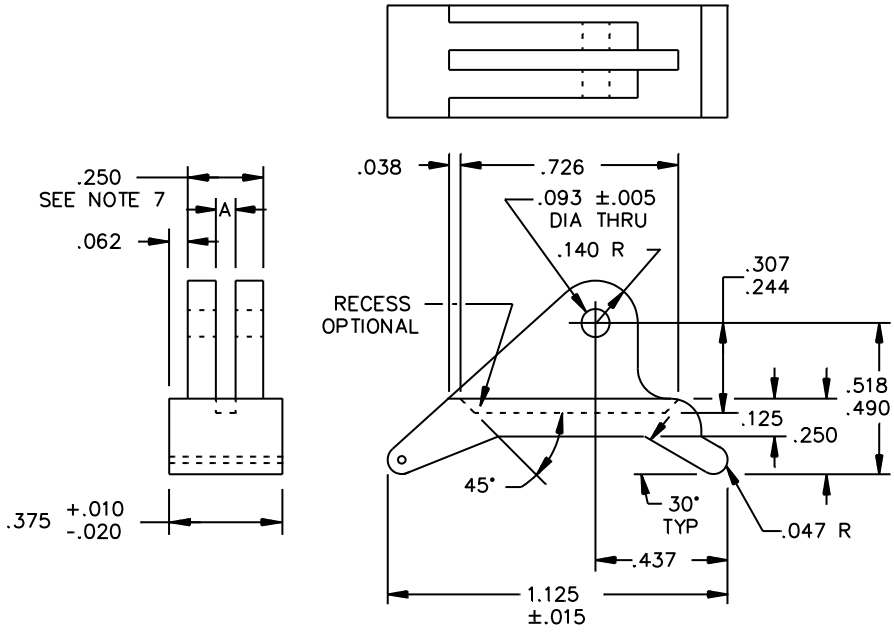
TABLE I. Dash numbers and dimensions.

DSCC Drawing PIN 83023	Configuration	Material 1/	Dimension A	Dimension B	Dimension C
–01	A	N	.075		
–02	B	N	.075		
–03	C	N	.075		
–04	D	N	.075		
–05	A	N	.105		
–06	B	N	.105		
–07	C	N	.105		
–08	D	N	.100		
–09	E1	GFN	.075	.290	2.00
–10	E1	GFN	.140	.350	2.00
–11	E2	GFN	.075	.290	1.50
–12	F1	GFN	.075		
–13	G	N	.070		
–14	F1	L	.075		
–15	H	N	.070		
–16	H	N	.100		
–17	F2	L	.140		
–18	I	N	.070		
–19	J	N	.075		
–20	J	N	.100		
–21	J	N	.140		
–22	K	N	.075		
–23	L	N	.075		
–24	E1	GFN	.075	.350	2.0
–25	E1	GFN	.100	.350	2.0
–26	E2	GFN	.074	.350	1.50
–27	E2	GFN	.100	.350	1.50
–28	E2	GFN	.140	.350	1.50

1/ Material designators are as follows: "N" is nylon, "GFN" is glass filled nylon, and "L" is glass filled polycarbonate.



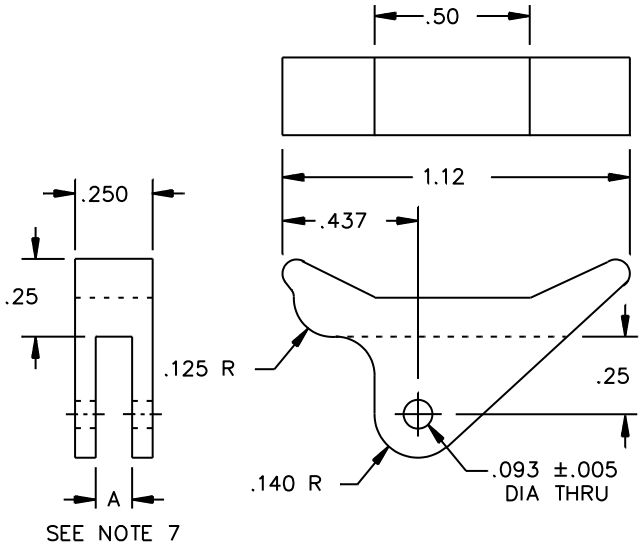
CONFIGURATION A



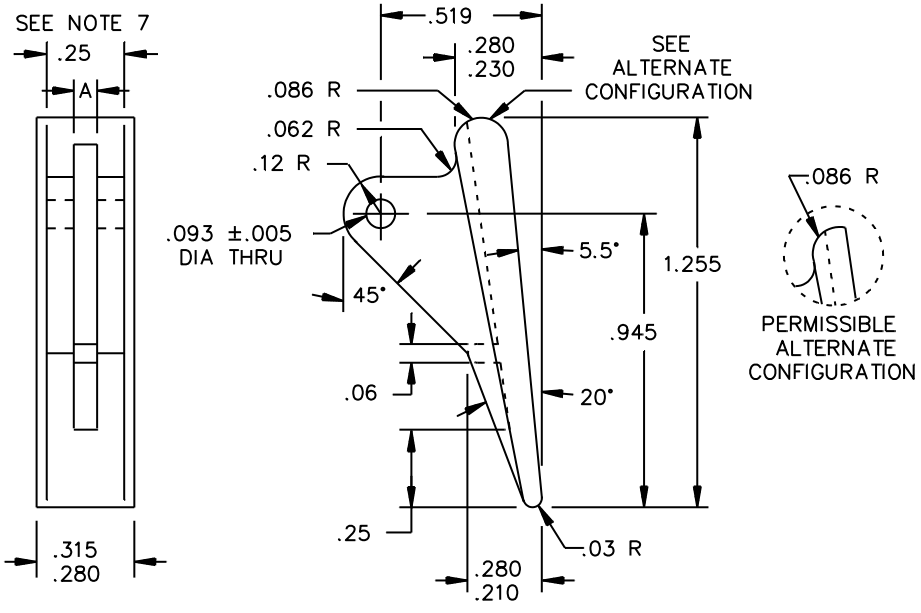
CONFIGURATION B

FIGURE 1. Design and dimensions.

DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444	SIZE A	CAGE CODE 14933	DWG NO. 83023
		REV L	PAGE 5



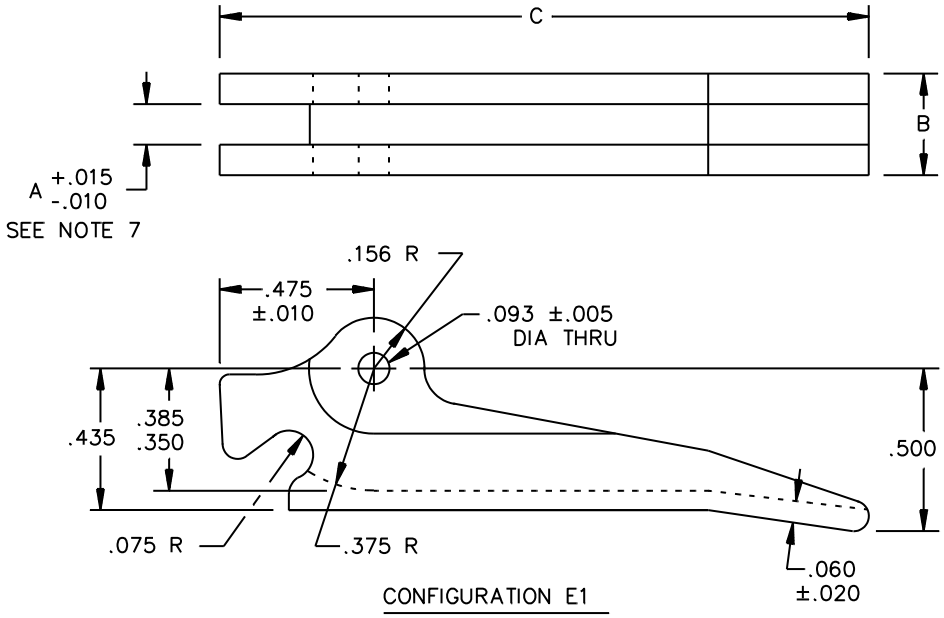
CONFIGURATION C



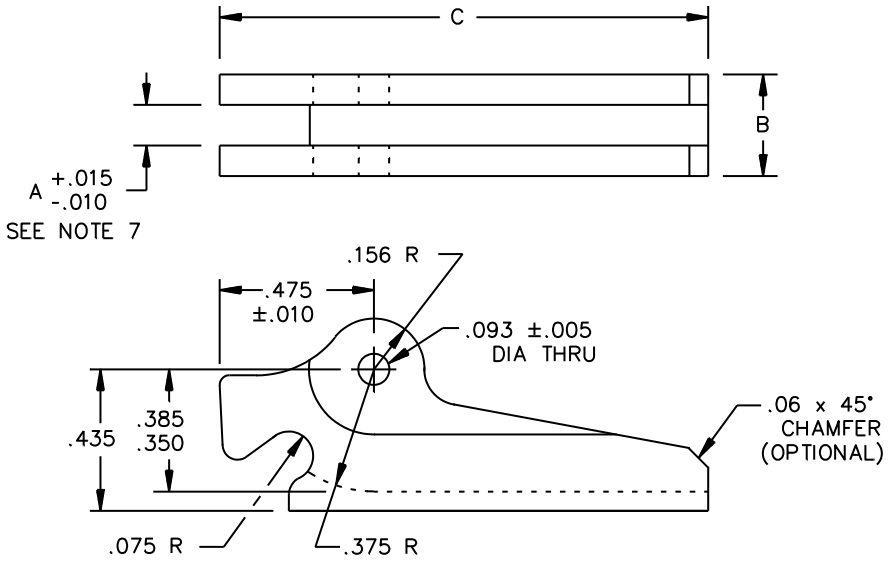
CONFIGURATION D

FIGURE 1. Design and dimensions – Continued.

DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444	SIZE A	CAGE CODE 14933	DWG NO. 83023
		REV L	PAGE 6



CONFIGURATION E1



CONFIGURATION E2

FIGURE 1. Design and dimensions – Continued.

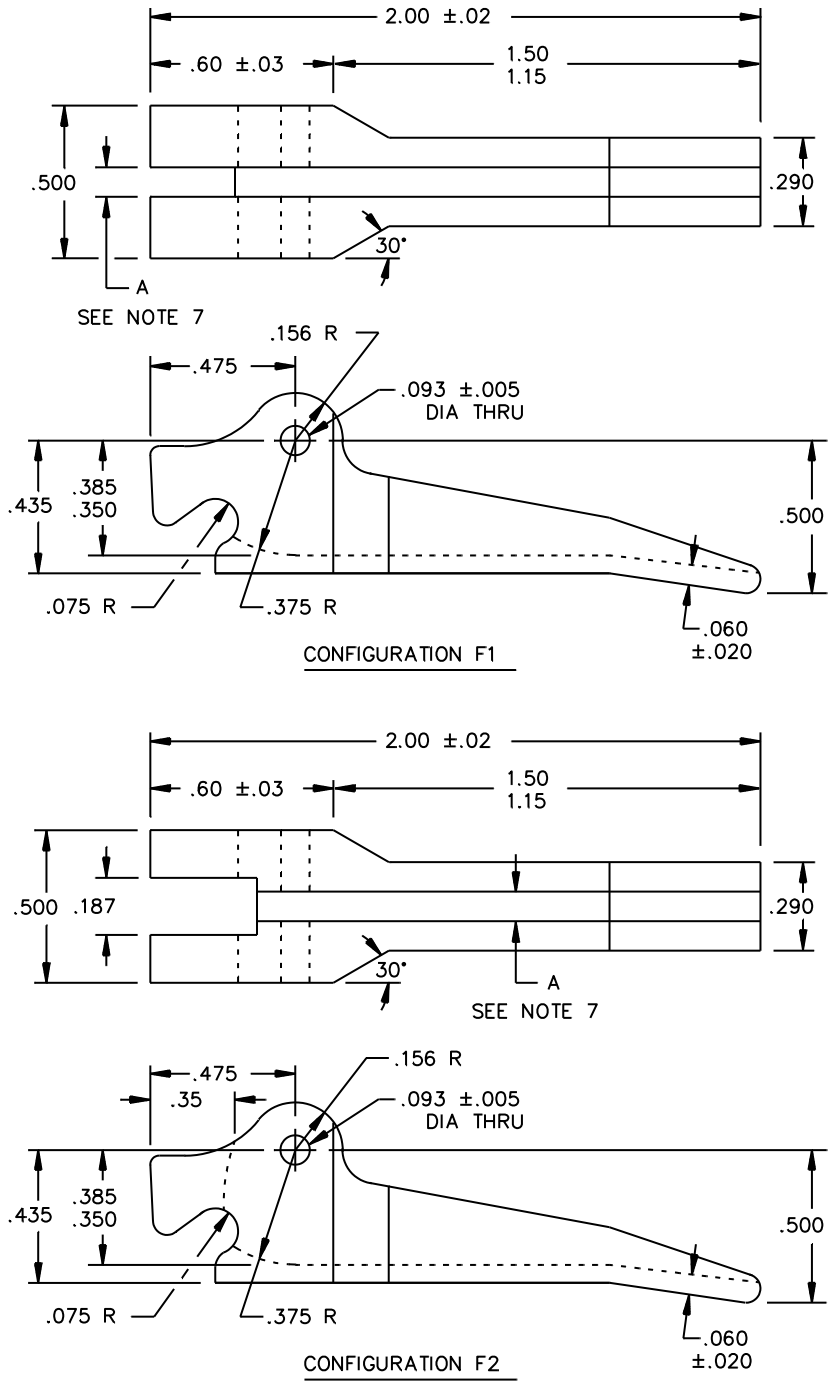


FIGURE 1. Design and dimensions – Continued.

DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444	SIZE A	CAGE CODE 14933	DWG NO. 83023
		REV L	PAGE 8

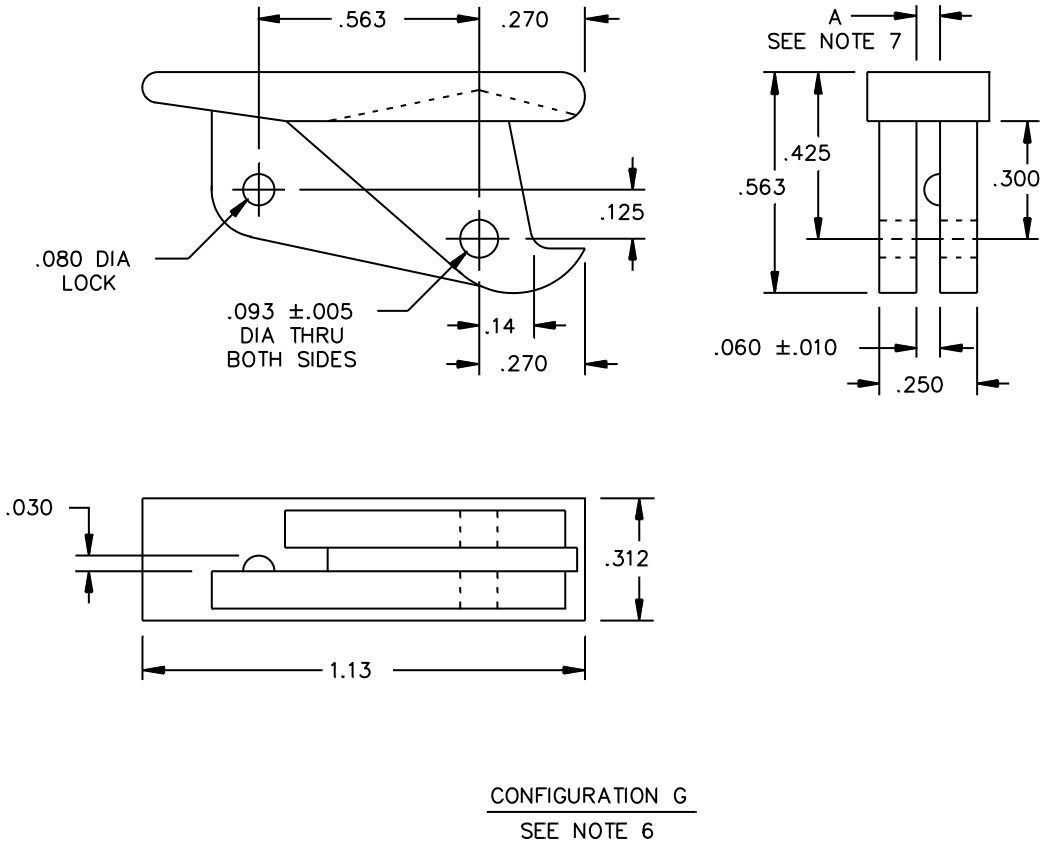


FIGURE 1. Design and dimensions – Continued.

DEFENSE ELECTRONICS SUPPLY CENTER **DAYTON, OH 45444**	SIZE **A**	CAGE CODE **14933**	DWG NO. **83023**
		REV **L**	PAGE **9**

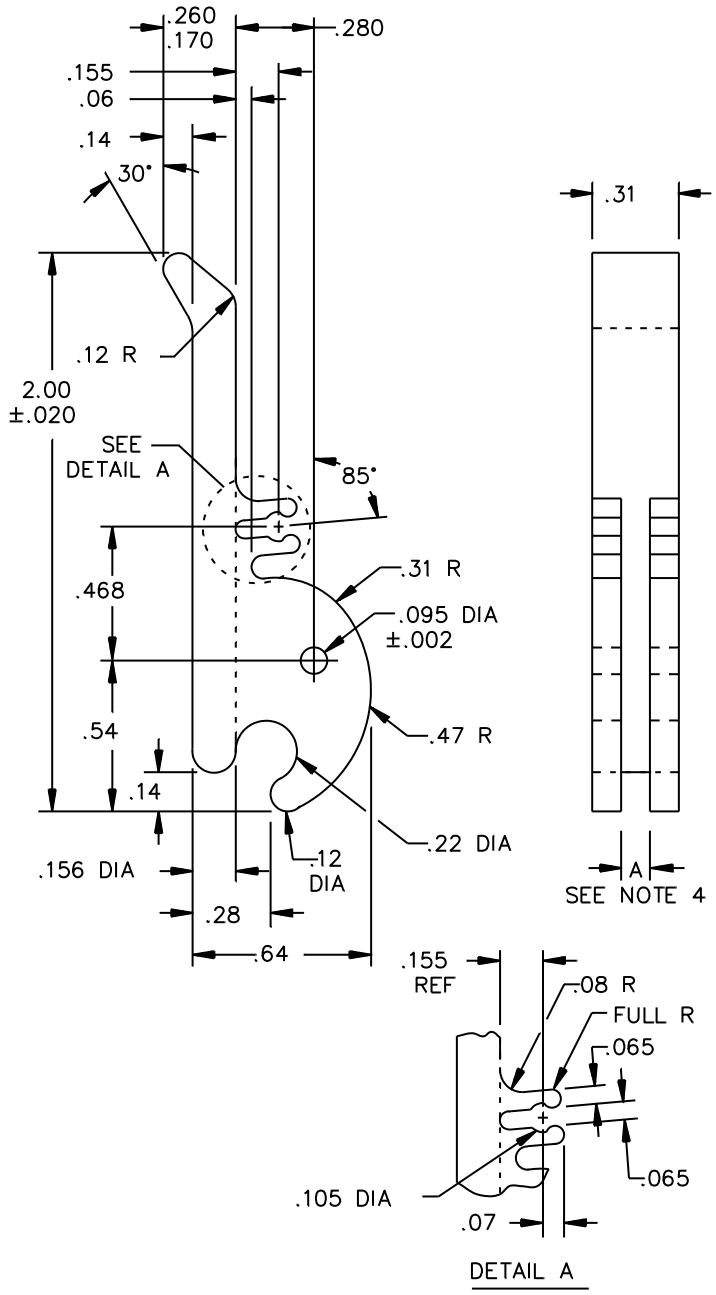
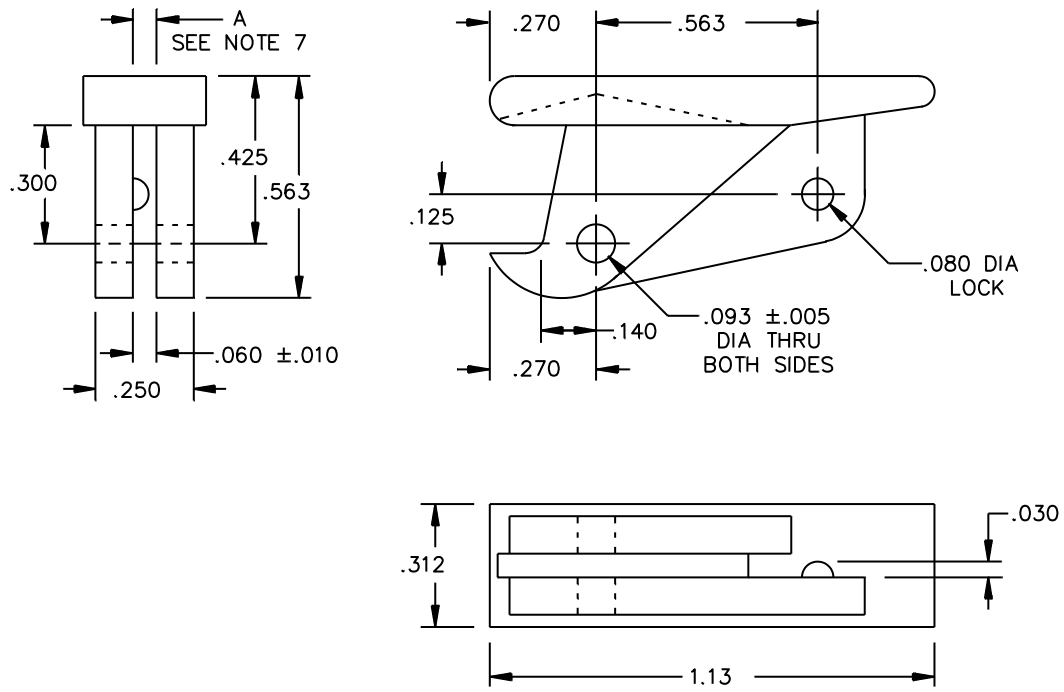


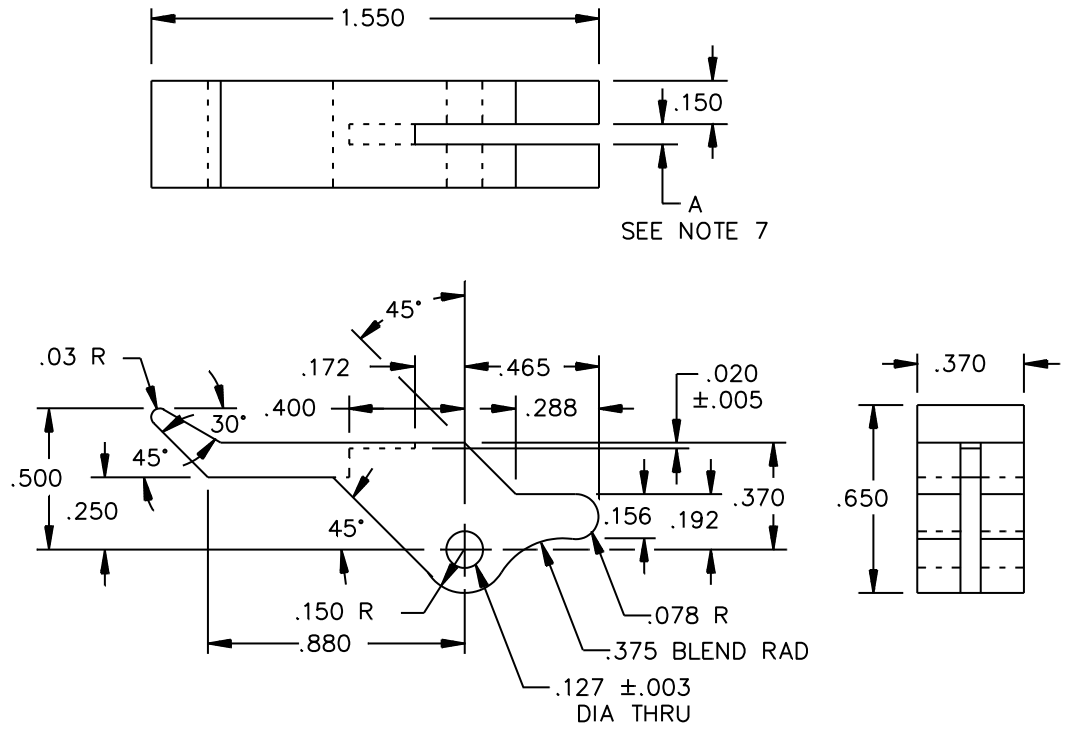
FIGURE 1. Design and dimensions – Continued.

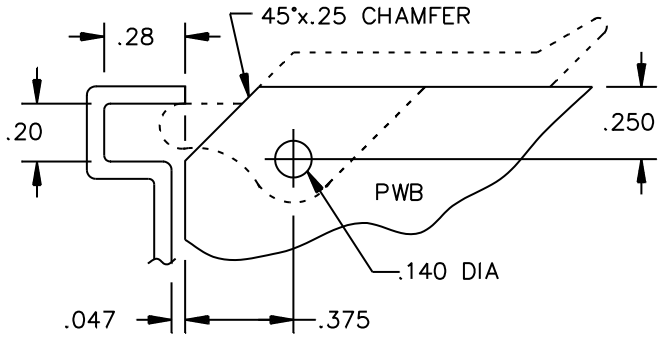
DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444	SIZE A	CAGE CODE 14933	DWG NO. 83023
		REV L	PAGE 10



CONFIGURATION I
SEE NOTE 6

FIGURE 1. Design and dimensions – Continued.



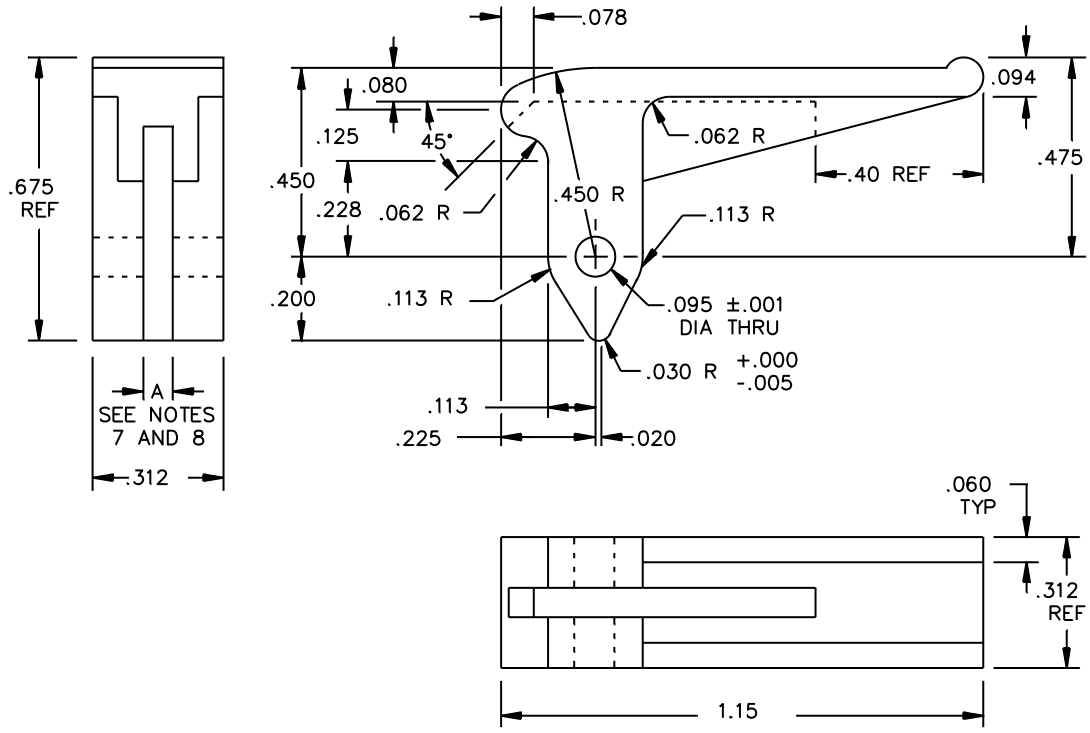


TYPICAL APPLICATION
SHOWN WITH SHEET METAL
CAGE CONFIGURATION

CONFIGURATION J

FIGURE 1. Design and dimensions – Continued.

DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444	SIZE A	CAGE CODE 14933	DWG NO. 83023
		REV L	PAGE 12



CONFIGURATION K

FIGURE 1. Design and dimensions – Continued.

DEFENSE ELECTRONICS SUPPLY CENTER **DAYTON, OH 45444**	SIZE **A**	CAGE CODE **14933**	DWG NO. **83023**
		REV **L**	PAGE **13**

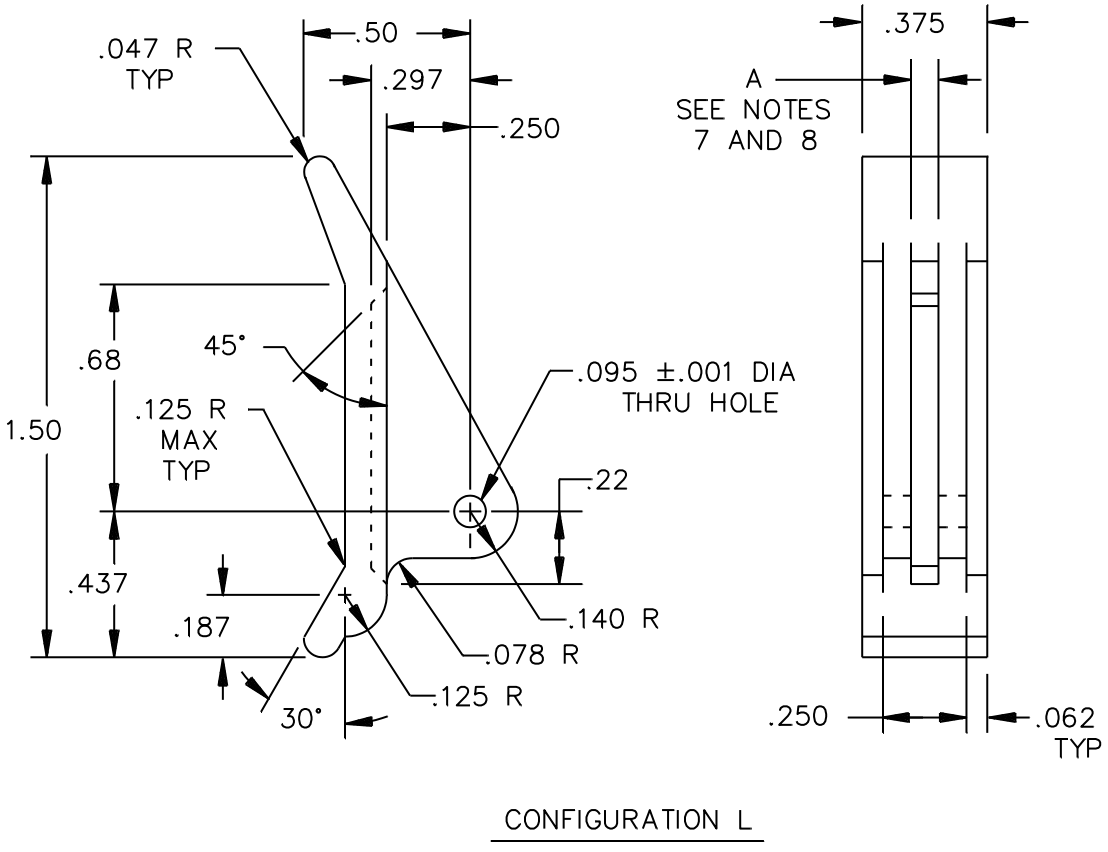


FIGURE 1. Design and dimensions – Continued.

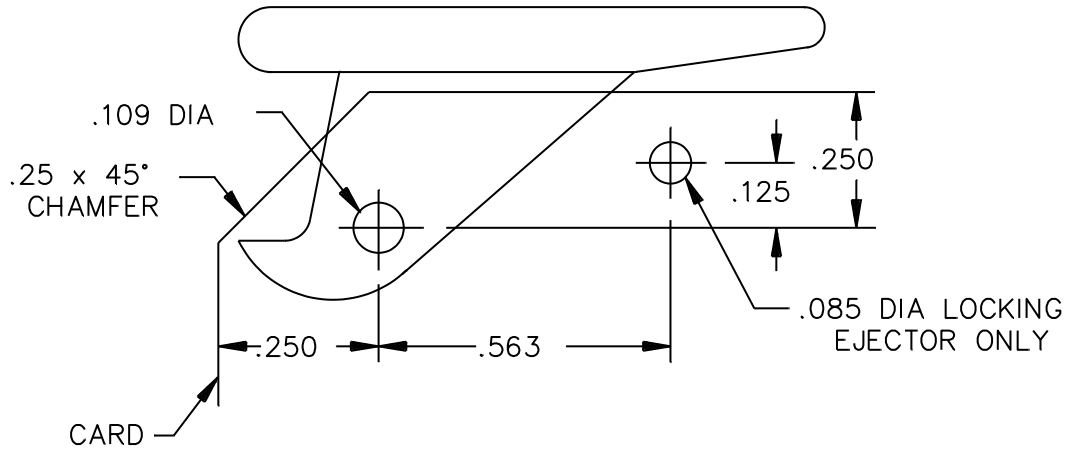
DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444	SIZE A	CAGE CODE 14933	DWG NO. 83023
		REV L	PAGE 14

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.025	.113	2.87	.297	7.54	.500	12.70
.003	0.076	.120	3.05	.300	7.62	.518	13.16
.005	0.13	.125	3.18	.307	7.80	.519	13.18
.010	0.25	.127	3.23	.31	7.9	.540	13.72
.015	0.38	.140	3.56	.312	7.92	.563	14.30
.020	0.51	.150	3.81	.315	8.00	.64	16.3
.03	0.8	.155	3.94	.350	8.89	.650	16.51
.038	0.970	.156	3.96	.370	9.40	.675	17.51
.047	1.19	.170	4.32	.375	9.53	.68	17.3
.060	1.52	.187	4.75	.380	9.65	.726	18.44
.062	1.57	.192	4.88	.385	9.78	.945	24.00
.065	1.65	.210	5.33	.400	10.16	1.083	27.51
.07	1.8	.220	5.59	.425	10.80	1.110	28.19
.075	1.91	.225	5.72	.435	11.05	1.12	28.4
.078	1.98	.230	5.84	.437	11.10	1.125	28.57
.080	2.03	.244	6.20	.450	11.43	1.13	28.7
.086	2.18	.250	6.35	.465	11.81	1.15	29.2
.09	2.3	.260	6.60	.468	11.89	1.255	31.87
.093	2.36	.270	6.86	.47	11.9	1.50	38.1
.094	2.39	.280	7.11	.475	12.07	1.55	39.4
.095	2.41	.290	7.37	.490	12.45	2.00	50.8
.105	2.67						

NOTES:

1. Dimensions are in inches. Metric equivalents are given for general information only.
2. Unless otherwise specified, tolerance is ±.02 inch (0.51 mm) for two place decimals, ±.010 (0.25 mm) for three place decimals, and for angles ±1 degree.
3. Slotting or elongating of second mounting hole is recommended to allow for length variations in molding and to facilitate assembly.
4. Tolerance for slot base is +.010 (0.25 mm), –.000 (0.00 mm); tolerance for slot opening is +.000 (0.00 mm), –.020 (0.51 mm) (applies to configuration H).
5. See table I for applicable dimensions.
6. Configurations G and I are mirror images.
7. Flanges may converge slightly, provided function of part is not impaired.
8. "A" dimension to be centered ±.010 (.254mm) within width dimension (configuration K and L).

FIGURE 1. Design and dimensions – Continued.



Inches	mm
.085	2.16
.109	2.77
.125	3.18
.250	6.35
.25	6.4
.563	14.30

NOTES:
1. Dimensions are in inches. millimeter equivalents are given for general information only.
2. Unless otherwise specified, tolerance for two place decimals is ±.02 inch (0.51 mm), for three place decimals is ±.010 (0.25 mm), and for angles ±1 degree.

FIGURE 2. Card mounting dimensions.

4. VERIFICATION

4.1 Conformance inspections.

4.1.1 Inspection of product for delivery. Inspection of product for delivery shall consist of visual and mechanical inspections of interface and physical dimensions (see 3.1), materials (see 3.2), and workmanship (see 3.7). Criteria for defects are listed in 4.1.5.

4.1.2 Optional statement of compliance. The acquiring activity, at its discretion, may accept a statement of compliance in lieu of the manufacturer performing the inspection of product for delivery (see 6.2.b).

4.1.3 Sampling plan. A sample of parts shall be randomly selected in accordance with table II, normal sampling. If one or more defects are found, the lot shall be rejected. Criteria for defects are listed in 4.1.5.

4.1.4 Rejected lots. If an inspection lot is rejected after normal sampling inspection, the manufacturer may rework it to correct the defects, or screen out the defective parts and resubmit for inspection. Resubmitted lots shall be inspected by selecting a random sample of parts in accordance with table II, tightened sampling. If one or more defects are found in this sample, the lot shall be rejected and shall not be supplied to this specification. Resubmitted lots which are acceptable shall be clearly identified as reinspected lots.

4.1.5 Defective characteristics and properties. Dimensional characteristics are considered defective when out of tolerance. Physical and functional properties are considered defective when outside the specified minimum, maximum, or range as applicable. Workmanship characteristics are considered defective when they would be detrimental to the intended use, performance requirements, or environmental survival of the part.

TABLE II. Sampling plan.

Lot size	Normal	Tightened
2 to 25	3	5
26 to 50	5	6
51 to 90	6	7
91 to 150	7	11
151 to 280	10	13
281 to 500	11	16
501 to 1,200	15	19
1,201 to 3,200	18	23
3,201 to 10,000	22	29
10,001 to 35,001	29	35
35,001 and over	29	40

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's system command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. Retainer–ejectors conforming to this drawing are intended for use when performance specifications do not exist and qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The acquisition requirements should specify the following:

a. Complete PIN (see 1.2).

b. Requirements for delivery of one copy of the conformance inspection data or certificate of compliance that parts have passed conformance inspection with each shipment of parts by the manufacturer.

c. Requirements for packaging and packing.

6.3 Users of record. Coordination of this document for future revisions are coordinated only with the suggested sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing should be in writing to: DLA Land and Maritime, ATTN: VAC, Post Office Box 3990, Columbus, OH 43218–3990 or by electronic mail at "5998.Documents@dla.mil" or by facsimile (614) 693–1642 or DSN 850–6939.

6.4 Replaceability. Retainer–ejectors covered herein replace similar commercial devices covered by contractor prepared specifications or drawings.

6.5 Application information. Figure 2 depicts the correct mounting procedure for mounting locking ejectors 83023–13 and 83023–18. These ejector mates with electrical card holders covered by DESC drawing 84006.

6.6 Approved sources of supply. Approved sources of supply are listed herein. Additional sources will be added as they become available. The vendors listed herein have agreed with this drawing and have submitted a certificate of compliance (see 3.4 herein) to DLA Land and Maritime, ATTN: VAC, P.O. Box 3990, Columbus, OH 43218–3990.

DESC drawing PIN 83023 (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
–02# –09# –10# –11# –15# –16# –28#	103 107 107–3 107–10 87–2 87–3 107–10–3	61081	Pentair Electronics Protection 7328 Trade Street San Diego, CA 92121–3410 Telephone: (858) 740–2400 Toll Free: (800) 854–7086 Facsimile: (858) 679–4555 URL: http://schroff.pentair.com

(1) Parts must be purchased to this DESC PIN to assure that all performance requirements and tests are met.
(2) The number sign (#) denotes color (see 3.3).
(3) Do not use vendor PIN's for acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

DESC drawing PIN 83023 (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
–01#	9762	67012	Global Supply LLC 500 Division Street Campbell, CA 95008–6906 Telephone: (408) 960–0370 Facsimile: (408) 960–0375 E-mail: sales@globalsupply.com URL: globalsupply.com
–02#	9562		
–03#	9662		
–04#	9962		
–05#	9732		
–06#	9532		
–07#	9632		
–08#	9932		
–09#	83023–09		
–10#	83023–10		
–11#	83023–11		
–12#	83023–12		
–13#	9162–13		
–14#	83023–14		
–15#	9872A		
–16#	9872B		
–17#	83023–17		
–18#	9162–18		
–19#	9209		
–20#	9209–20		
–21#	9209–21		
–22#	83023–22		
–23#	83023–23		
–24#	83023–24		
–25#	83023–25		
–26#	83023–26		
–27#	83023–27		
–28#	83023–28		

(1) Parts must be purchased to this DESC PIN to assure that all performance requirements and inspections are met.
(2) The number sign (#) denotes color (see 3.3).
(3) Do not use vendor PIN's for acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

DESC drawing PIN 83023 (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
–01#	9762	24227	Teknational, Division of Global Supply, LLC 500 Division Street Campbell, CA 95008–6906 Telephone: (408) 960–0370 Facsimile: (408) 960–0375 E-mail: sales@globalsupply.com URL: www.teknational.com
–02#	9562		
–03#	9662		
–04#	9962		
–05#	9732		
–06#	9532		
–07#	9632		
–08#	9932		
–09#	83023–09		
–10#	83023–10		
–11#	83023–11		
–12#	83023–12		
–13#	9162–13		
–14#	83023–14		
–15#	9872A		
–16#	9872B		
–17#	83023–17		
–18#	9162–18		
–19#	9209		
–20#	9209–20		
–21#	9209–21		
–22#	83023–22		
–23#	83023–23		
–24#	83023–24		
–25#	83023–25		
–26#	83023–26		
–27#	83023–27		
–28#	83023–28		

(1) Parts must be purchased to this DESC PIN to assure that all performance requirements and tests are met.
(2) The number sign (#) denotes color (see 3.3).
(3) Do not use vendor PIN's for acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.